

CLAIMS:

1. A method of manufacturing a semiconductor device, in which, in a semiconductor body having a temporary substrate, at least one semiconductor element is formed which, on a side of the semiconductor body opposite the substrate, is provided with at least one connection region, and, on the side of the semiconductor body where the connection region is formed, a dielectric is provided in accordance with a pattern leaving the connection region exposed, after which a metal layer is provided over the dielectric so as to be in contact with the connection region, which metal layer serves as an electric connection conductor of the connection region, after which the temporary substrate is removed and the metal layer serves as a substrate, characterized in that prior to the provision of the metal layer, a ring-shaped area of a synthetic resin is provided, viewed in projection, around the patterned part of the dielectric and around the semiconductor element, which ring-shaped area is provided in a thickness exceeding the thickness of the dielectric and the metal layer within the ring-shaped area of synthetic resin.
2. A method as claimed in claim 1, characterized in that a photoresist is selected as the material used for the synthetic resin of the ring-shaped area, and said ring-shaped area is formed by means of photolithography.
3. A method as claimed in claim 1 or 2, characterized in that a further photoresist is selected for the dielectric, which further photoresist is patterned by means of photolithography.
4. A method as claimed in claim 3, characterized in that the thickness of the dielectric is chosen to range from 1 to 10 μm , and the thickness of the ring-shaped area is chosen to range from 10 to 200 μm .
5. A method as claimed in claim 1, 2, 3 or 4, characterized in that copper is chosen as the metal for the metal layer, and the thickness of the metal layer is chosen to exceed the thickness of the ring-shaped area by 5 to 20 μm .

6. A method as claimed in any one of the preceding claims, characterized in that after the provision of the metal layer, the ring-shaped area is removed and the semiconductor device is obtained by sawing through the parts of the semiconductor body where the ring-shaped area is situated.

7. A method as claimed in any one of claims 1 through 5, characterized in that the semiconductor device is obtained by pressing the semiconductor body out of the ring-shaped area.

8. A method as claimed in any one of the preceding claims, characterized in that a wall of the ring-shaped area adjoining the metal layer is provided with a profile.

9. A method as claimed in any one of the preceding claims, characterized in that after the removal of the temporary substrate, a further rectangular ring-shaped area of a synthetic resin is provided, on said side of the semiconductor body, approximately opposite the ring-shaped area, and a further metal layer is applied within the further ring-shaped area.

10. A method as claimed in any one of the preceding claims, characterized in that the semiconductor body is formed by providing a semiconductor substrate with a buried isolating layer above which the semiconductor element, the connection region and a further connection region of the semiconductor element are formed, the temporary substrate being formed by the part of the semiconductor substrate situated below the buried isolating layer.

11. A method as claimed in claim 9, characterized in that between the buried isolating layer and the connection region, a further isolating layer forming an etch-stop layer with respect to the buried isolating layer and another isolating layer are provided wherein an aperture is formed wherein the further connection region is formed, and after the removal of the temporary substrate, a part of the buried isolating layer situated below the further connection region is removed by means of an etchant which is selective with respect to the further isolating layer.

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12. A method as claimed in any one of the preceding claims, characterized in that the semiconductor element is formed by a bipolar transistor, and the connection region is connected to the emitter region of the bipolar transistor.

5 13. A method as claimed in any one of claims 1 through 11, characterized in that the semiconductor element is formed by an LDMOS transistor, and the connection region is connected to the source region of the LDMOS transistor.

10 14. A semiconductor device obtained by means of a method as claimed in any one of the preceding claims.